NATURAL RESOURCES DEFENSE COUNCIL

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Hearing on "Methyl Bromide:
Are U.S. Interests Being Served by the Critical Use Exemption Process?"

Subcommittee on Energy and Resources
Committee on Government Reform
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Summary

- The Montreal Protocol is a global success story. The Protocol has enjoyed bipartisan backing of four presidents, beginning with Ronald Reagan. It is saving literally millions of Americans, and tens of millions of people around the world, from death and disease. The ozone layer has begun to heal, but it will still take at least 50 more years to fully recover – assuming we stay the course and complete the phase-out of all potent ozone-destroyers, including methyl bromide. Now is not the time to tamper with the world's most effective environmental treaty.

- Methyl bromide is the most dangerous ozone-destroying chemical still in widespread use. Methyl bromide has also been linked to increased rates of prostate cancer in pesticide applicators and other agricultural workers.

- The methyl bromide exemptions allowed in 2005 and 2006 will cause more than 20 deaths from skin cancer, more than 4,000 other skin cancers cases, and more than 1,400 cataract cases, in the U.S. alone. The global health toll will be much larger.

- "Critical use" needs have been dramatically exaggerated. U.S. government data show that the amount of methyl bromide actually used for all fumigation purposes in 2003 was nearly *25 percent less* than the amount claimed to be critical in 2005. A credible exemption process would not have allowed this exaggeration.

- Far from encouraging the development and use of methyl bromide alternatives, the critical use exemption process has become a major obstacle to deploying alternatives.

- The reality is that there is a glut, not a shortage, of methyl bromide available for sale. In 2005, the existing stockpile plus new production allowed by EPA was at least *double* the total amount needed for critical uses. The same is true for 2006.

- The most recent available data show that just five U.S. producers and distributors held a huge methyl bromide stockpiles equaling *at least 22 million pounds*. At least *24* other companies also held methyl bromide stockpiles, meaning that total stockpiles may be even larger. Because of the stockpile, *no* new production was needed last year, and *none* is needed this year.

- Our country needs to comply with existing law and treaty obligations, and with the international agreements made twice last year by the administration. To do otherwise would threaten the repair of the ozone layer, imperil the health of millions of Americans, and stick a finger in the eye of yet another international treaty.

Mr. Chairman, thank you for the opportunity to testify today on critical use exemptions from the phase-out of methyl bromide, on behalf of the Natural Resources Defense Council (NRDC) and its 1.2 million members and on-line activists. For nearly 30 years, NRDC has been the principal voice for protecting the earth's fragile ozone layer.

You will hear claims today that the process under the Montreal Protocol and the Clean Air Act is broken and that farmers and others face a shortage of a chemical for which they have no alternatives. I will present evidence that in reality there is a *glut* of methyl bromide available today: Supplies available last year were *more than double* the amount that the Environmental Protection Agency (EPA) claims was needed by critical users. The same is true for 2006.

Furthermore, EPA has dramatically exaggerated the amount of methyl bromide needed both last year and this. The amount used by *all* users in 2003 was nearly 25 percent less than amount EPA claimed was needed by critical users last year. Critical use needs have been exaggerated again this year.

And far from encouraging the adoption of methyl bromide alternatives, the exemption process has turned into a major impediment to alternatives. New chemicals are available to substitute for methyl bromide in important segments of the current market, such as mills and other structures. Instead of accelerating the methyl bromide phase-out for these uses, the EPA rules actually will *prolong* methyl bromide uses.

I want to be clear that NRDC is *not* trying to stop use of methyl bromide where farmers or others really have legitimate critical use needs and lack adequate alternatives. Under the Montreal Protocol and the Clean Air Act, the United States committed to phase

out methyl bromide over a 12-year period ending on December 31, 2004. That agreement provides for limited critical use exemptions after that date. We understand and accept that *some* methyl bromide exemptions will be made for some period of time.

What we cannot accept, however, is EPA's continuing failure to comply with the Clean Air Act and the Montreal Protocol. That is why NRDC has gone to court to stop the abuse of the critical use exemption process – abuse that is maintaining far more methyl bromide production and use than is really needed and worsening the ozone depletion responsible for so many deaths and illnesses each year. The U.S. Court of Appeals for the District of Columbia Circuit is expected to rule on the legality of EPA's 2005 exemption regulations very shortly.

What's at stake. There are few more heartening success stories than the global effort to phase out the ozone-damaging chemicals. Every American, and every citizen on this Earth, relies on the ozone layer to block dangerous ultraviolet radiation that causes skin cancer, cataracts, immune disorders and other diseases. The Montreal Protocol – which has enjoyed bipartisan support from four presidents, beginning with Ronald Reagan – is saving literally millions of American lives. In the United States alone, the phase-out of ozone-depleting chemicals is projected to prevent an estimated 6.3 million skin cancer deaths, 299 million other skin cancer cases, and 27.5 million cataract cases.[1] The number of lives saved and illnesses avoided on a world-wide basis is much larger.

But the recovery of the ozone layer is not assured. The Antarctic ozone hole is not expected to close, and the ozone layer over the U.S. is not expected to heal fully, before the middle of this century, and then only if the phase-out of ozone-depleting

[1] EPA Report to Congress, The Benefits and Costs of the Clean Air Act: 1990 to 2010, 64 Table 5-5 (1999) (EPA-410-R-99-001), *available at* http://www.epa.gov/air/sect812/1990-2010/chap1130.pdf.

chemicals, including methyl bromide, stays on schedule.[2] Methyl bromide is the most powerful ozone-depleter still in widespread use. Now is not the time to tamper with the Montreal Protocol or the Clean Air Act.

It is hard to come up with an environmental hazard that affects more Americans and that the American public better understands. Millions of Americans – including farmers – must work everyday in the sun. Millions more – from school children to seniors – spend hours of their days out of doors. Millions of concerned parents check the UV Index and cover their kids with sunscreen before letting them go out in the sun.

Scientific experts warn us that excess methyl bromide exemptions will have real-world public health consequences. Dr. Mario Molina, the Nobel prize-winning atmospheric scientist who discovered the depletion of the ozone layer, has warned that methyl bromide exemptions will increase damage to the ozone layer and to public health, and may keep the ozone layer from ever fully recovering.[3] Using the government's own risk assessment methodology (which he helped develop), Dr. Sasha Madronich, a highly-qualified expert on the health risks of ozone depletion, has calculated that in the United States alone "it is reasonable to expect more than 10 deaths, more than 2,000 non-fatal skin cancer cases, and more than 700 cataract cases to result from the 16.8 million pounds of new production and consumption [of methyl bromide] allowed by the 2005 exemption rule."[4] The 2006 exemption rule allows another 15.2 million pounds of new production and import and will nearly double that toll of death and illness. And these

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[2] *See* World Meteorological Organization, Scientific Assessment of Ozone Depletion: 2002, xxv ("Failure to comply with the Montreal Protocol would delay or could even prevent recovery of the ozone layer. . . . The total atmospheric abundance of ozone-depleting gases will decline to pre-Antarctic-ozone-hole amounts only with adherence to the Montreal Protocol's full provisions on production of ozone-depleting substances."), *available at* http://www.unep.org/ozone/pdfs/Scientific_assess_depletion/05-ExecutiveSummary.pdf.

[3] *See* Affidavit of Dr. Mario Molina (submitted for the record).

[4] *See* Affidavit of Dr. Sasha Madronich (submitted for the record).

numbers account for only the health toll in the United States. U.S. use of methyl bromide will cause even more deaths and illnesses around the world. (See figure 1.)

Methyl bromide is also a direct threat to the health of people who work with it. The National Cancer Institute has linked methyl bromide to increased prostate cancer risks in a study of 55,000 pesticide applicators, including farmers, nursery workers, and workers in warehouses and grain mills.[5]

Continuing to phase out methyl bromide, while recognizing the legitimate needs of farmers and other users who really have no alternatives, is the single most important thing we can do to assure repair of the ozone layer and to protect those directly exposed.

Excess exemptions for 2005 and 2006. Under the Montreal Protocol and the Clean Air Act, methyl bromide production and import was to end on December 31, 2004, except for limited exemptions for critical uses. The United States has agreed *five times* – once in 1997 and four times in 2004 and 2005 – to the ground rules under the Montreal Protocol for critical use exemptions. Exemptions are allowed under the Protocol and section 604(d)(6) of the Clean Air Act only if consistent with those ground rules. In a nutshell:

- There must be a significant market disruption,
- There must be no technically and economically feasible alternatives, and
- Every feasible means must be adopted to minimize use and emissions.
- Further, new production and import of methyl bromide is permitted *only* if existing stockpiles of the chemical are insufficient to meet genuine critical use needs.

None of these requirements have been met in either 2005 or 2006.

[5] Michael C.R. Alavanja et al., Use of Agricultural Pesticides and Prostate Cancer Risk in the Agricultural Health Study Cohort, 157 AM. J. EPIDEMIOLOGY 800 (2003), *available at* http://www.aghealth.org/pdfs/AJE157.800.pdf.

Exaggerating how much methyl bromide is really needed. Let's start with the faults in EPA's assessment of critical use needs in 2005 and 2006. The logical place to start is to ask how much methyl bromide was really used *before* the 2004 phase-out date?[6] For 2003, government data show that *all* farmers, millers, and others used a total of 17 million pounds of methyl bromide.[7] (See the top bar in figure 2, next page.) That should be an upper limit on what critical users would need in later years, for two reasons. First, since the critical users are only a *subset* of all users, it stands to reason that their needs would be less than the needs of all users. Second, since alternatives are becoming steadily more available, critical use needs should decline further from this level over time.

For 2005, however, EPA determined that critical users somehow needed *21.1* million pounds – nearly 25 percent more than *all* users needed in 2003. For 2006, EPA's

[6] All the usage data in this paragraph cover methyl bromide usage for fumigation purposes in fields and buildings, excluding quarantine and pre-shipment usage, which is subject to a separate exemption.
[7] Government data obtained under the Freedom of Information Act show that total U.S. consumption (a term of art under the treaty and domestic law meaning "production plus imports minus exports") in 2003 was only about 14.3 million pounds – only about 25 percent of the 1991 baseline amount – even though consumption of 30 percent of baseline was allowed in 2003. The data also show that another five or six percent was drawn down from the stockpiles, bringing total 2003 use by *all* users to about 17 million pounds.

critical use assessment is only a shade smaller – some 18 million pounds – still more than total use in 2003. (These amounts are shown in the second and third bars in figure 1.)

How did EPA produce assessments of 2005 and 2006 critical use needs that so sharply exceed the actual usage of methyl bromide in 2003? There are at least two reasons: First, the data employed to project critical use needs in 2005 and 2006 dated from *2002 or earlier*. This out-of-date data simply did not reflect the progress made in reducing use by 2003, let alone by 2005 and 2006. Second, EPA's assessment process employs patently unreasonable adverse assumptions, such as assuming that worst-case pest conditions hit *every crop at once.* EPA also assumed that extra methyl bromide reserves are required because the marketplace will not efficiently move existing supplies of the chemical to where they are needed. Neither assumption corresponds to reality. The pests don't attack everywhere at once, and distributors are routinely able to make methyl bromide available when and where it is needed. No farm chemical is inventoried and distributed in the unrealistic way EPA assumed.

There are two other factors EPA failed to consider in deciding on 2006 critical needs. First, EPA disregarded its duty to use all feasible means to reduce usage and minimize emissions. One area of great progress in recent years is the use of special tarping materials that trap most methyl bromide in the soil, thereby sharply cutting the amount of methyl bromide needed to fumigate a field. Since less is used, less ultimately escapes into the air. Tarping with these low-permeability materials should have led to a sharp reduction how much methyl bromide is needed in 2006. But EPA made *no* reductions in the critical use amount on account of these techniques.

Second, EPA failed to take into account the full potential of a newly registered alternative, sulfuryl fluoride, which (together with other substitutes) could rapidly replace methyl bromide use in structural fumigation – i.e., in mills, storehouses, and other food processing facilities. A little history is important here. Done right, the phase-out process creates the market conditions to accelerate the penetration of alternatives. This worked successfully with chlorofluorocarbons (CFCs), for example: By setting a firm phase-out schedule and sticking to it, the Clean Air Act and the Montreal Protocol created the marketplace incentives for entrepreneurial firms to bring on alternatives – new propellants, refrigerants, solvents, etc. As a result, the CFCs, once considered irreplaceable, were virtually eliminated in less than 10 years.

But for methyl bromide, EPA has turned the phase-out process on its head. Now that sulfuryl fluoride has been registered by EPA and the states, the agency should have set a short, firm deadline to end the use of methyl bromide in structural fumigation. Instead, EPA asked itself the wrong question: How long will it take sulfuryl fluoride to replace methyl bromide *in the absence of a phase-out?* The agency concluded this would take eight years. So, by golly, EPA has signaled it will allow eight years to end the critical use exemption for structural fumigation. But this was the wrong question. The right question is: How quickly could sulfuryl fluoride penetrate the structural fumigation market given the incentive of a rapid methyl bromide phase-out schedule? If EPA had asked the right question, methyl bromide use in structural fumigation could be ended in one or two years, rather than eight.

EPA's current approach is a complete reversal of the successful CFC phase-out process. Instead of hastening the methyl bromide phase-out and rewarding innovative

farmers and businessmen who have risked capital to develop alternatives, EPA is protecting the ozone-depleting chemical and penalizing the responsible entrepreneurs.

Ignoring methyl bromide stockpiles. Now let's turn to EPA's faulty assessment of how much methyl bromide should be *produced* in 2005 and 2006. The U.S., together with the other Montreal Protocol parties, has repeatedly agreed that production or import of methyl bromide may be allowed after the 2004 phase-out deadline *only* if methyl bromide stockpiles are insufficient to meet critical needs. In both 2005 and 2006, however, EPA patently ignored data showing the existence of *massive* stockpiles.

Available data show that five companies (Great Lakes Chemicals, Albemarle, Ameribrom, Tri-Cal, and Hendrix and Dail) held stockpiles of *at least 22 million pounds,* and perhaps a great deal more, at the end of 2003. Later in 2004 EPA revealed that there are actually *29* companies that hold methyl bromide stockpiles, suggesting that the total stockpiled amount is significantly larger. (See figure 3.)

How do we know about these stockpiles? The truth is that methyl bromide producers, importers, and distributors have gone to great lengths to hide the size of the methyl bromide stockpile from the Congress, their customers, and the public. But a year ago, in response to a request from Energy and Commerce Chairman Joe Barton, EPA informed Congress that "stockpiling has indeed taken place."[8] The EPA letter did not disclose the actual size of the existing stockpile, on the ground that the companies had claimed the data to be confidential business information. The EPA letter did, however, include what it called "qualitative" information from which it could be deduced that at

[8] Letter from Dona DeLeon, EPA Acting Associate Administrator, to Rep. Joe Barton, (February 10, 2004), *reprinted in Status of Methyl Bromide Under the Clean Air Act and the Montreal Protocol: Hearing Before the Subcomm. on Energy and Air Quality, House Comm. on Energy and Commerce*, 108th Cong. 92 (2003).

the end of 2003 the stockpile held by the five companies named above totaled at least *22 million pounds*.[9]

NRDC has gone to court to obtain full information on the aggregate stockpile data. EPA has conceded that the aggregate amount of stockpiles is *not* confidential business information and should be released. But the agency still has not released the stockpile data. What stands in the way is a pair of frivolous counter-suits brought by two companies who are trying to keep everyone – the Congress, their customers, and the public – in the dark about the actual size of the stockpiles held by all 29 companies. Their strategy appears to be to deceive their customers into thinking the chemical is in short supply – which helps them raise prices – while at the same time evading the prohibition on new production when stockpiles are sufficient to meet critical use needs. The U.S. Court of Appeals is expected to resolve these data disclosure issues very soon.

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So despite the claims you will hear today, the truth is that *far less* methyl bromide is really needed for critical uses than the industry or the government claims, and *far more* methyl bromide is available than is required to meet those needs. The excess production

[9] The letter states, "EPA efforts to quantify the stockpile through discussions with a subset of users, producers and distributors of [methyl bromide] have yielded the conclusion that the stockpile, when combined with allowable levels during 2003 and 2004, is sufficient to enable access to levels of [methyl bromide] similar to those allowed to be accessed during 2001 and 2002, when the US was complying with the Clean Air Act's required 50% reduction in production and consumption." *Id.* at 92.

This passage yields the following calculation of the stockpile:

- 50% of the U.S. 1991 baseline level (the 2001-02 annual production limit),
- minus allowable levels during 2003 and 2004 (30% of 1991 baseline level),
- equals 20% of the 1991 baseline level,
- times two years (2003 and 2004),
- equals 40% of 1991 baseline level.

Forty percent of the 1991 baseline level (25,528 metric tons) equals 10,211 metric tons – or more than 22 million pounds. Other information obtained by NRDC under the Freedom of Information Act independently confirms this calculation. We received a document with a column of 5-digit numbers denominated in metric tons, including entries for the stockpile. The 5-digit stockpile figures were "blacked out." The smallest possible 5-digit number, however, is 10,000 metric tons, or 22 million pounds.

and use is causing real harm – deaths and illnesses that do not have to happen. The U.S. critical use exemption process *is* broken: It is allowing far too much production and use of methyl bromide, not too little. We need to comply with our own laws and treaty obligations, not break them.

The methyl bromide phase-out process can work – just as it did for CFCs and other chemicals earlier – to stimulate the development and adoption of effective alternatives. We must stick to this effort and cut back on EPA's grossly unwarranted exemptions.

Thank you for the opportunity to address these issues.